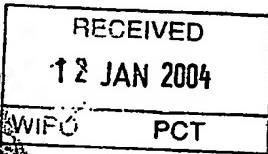


Rec'd PCT/PTO 30 DEC 2004



PI 1111226

**THE UNITED STATES OF AMERICA**

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APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.**

**APPLICATION NUMBER: 60/421,274  
FILING DATE: October 25, 2002  
RELATED PCT APPLICATION NUMBER: PCT/US03/34021**

**By Authority of the  
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## PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53(c).

Express Mail Label No.

EU713259464US

1010214  
00/4224 PTO

### INVENTOR(S)

Given Name (first and middle if any)	Family Name or Surname	Residence (City and either State or Foreign Country)
Richard Park	ANDERSEN	2204 Gunar Drive San Jose, CA 95124

Additional inventors are being named on the \_\_\_\_\_ separately numbered sheets attached hereto

### TITLE OF THE INVENTION (500 characters max)

OWNER-BROKERED KNOWLEDGE SHARING MACHINE

Direct all correspondence to:

### CORRESPONDENCE ADDRESS

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### ENCLOSED APPLICATION PARTS (check all that apply)

Specification Number of Pages

12

CD(s), Number

Drawing(s) Number of Sheets

1

Other (specify)

Application Data Sheet. See 37 CFR 1.76

### METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT

Applicant claims small entity status. See 37 CFR 1.27.

FILING FEE  
AMOUNT (\$)

A check or money order is enclosed to cover the filing fees

\$80.00

The Commissioner is hereby authorized to charge filing

fees or credit any overpayment to Deposit Account Number:

Payment by credit card. Form PTO-2038 is attached.

The invention was made by an agency of the United States Government or under a contract with an agency of the

United States Government.

No.

Yes, the name of the U.S. Government agency and the Government contract number are:

Respectfully submitted,  
*Leon E. Jew*  
SIGNATURE

Date 10/25/2002

TYPED or PRINTED NAME LEON E. JEW  
TELEPHONE 510-569-5065

REGISTRATION NO.  
(if appropriate)  
Docket Number:

46,804

VGTI0001P

### USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

55421274 162502

**THE SCHINNER  
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October 25, 2002  
Express Mail

Box Provisional Patent Application  
Commissioner of Patents  
Washington, DC 20231

Re: **Provisional Application**  
Title: **OWNER-BROKERED KNOWLEDGE SHARING MACHINE**  
Inventor: Richard Park Andersen  
Inventor's Residence: San Jose, California

Dear Sir:

Enclosed for filing the above-identified provisional application, please find the following:

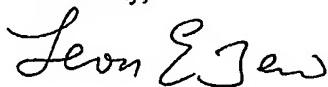
1. Form PTO/SB/16 attached with a check of \$80.00 for filing fee;
2. A twelve-page (12) written description of the invention, complying with 35.U.S.C. §112;
3. One (1) sheet of drawings (FIG. 1-2) necessary to understand the invention, complying with 35.U.S.C. §113; and
4. A self-stamped, addressed post card for receipt.

Please note that the applicant Mr. Richard Park Andersen is an independent inventor and all the rights and privileges relating to this invention have not been assigned to any individuals or institutions and therefore the applicant Mr. Richard Park Andersen is entitled to small entity status according to 37 CFR 1.27.

Please mail the PTO Receipt to our office address as indicated in Form PTO/SB/16.

I certify that I have mailed this letter along with the above-listed items (1-4) with US Express Mail (No. EU713259464US) on October 25, 2002.

Sincerely,



Leon E. Jew  
Attorney (No. 46, 804)

I certify that I have mailed this description and PTO/SB/16 with US Express Mail  
(No. EU713259464US) on October 25, 2002. Leon E. Jew

Leon E. Jew  
10/25/02

## OWNER-BROKERED KNOWLEDGE SHARING MACHINE

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5

### BACKGROUND OF THE INVENTION

#### 1. Field of the Invention

The present invention relates to a family of methods used to promote the sharing of digital information between knowledge workers or expertise providers who are connected by a computer network.

#### 10 2. Related Art

A statement as to the general structure of knowledge sharing systems can summarize the problem with such systems today. Systems are generally designed to "manage" knowledge rather than share it. As such, these systems are often called "knowledge management systems" and are built to manage a body of information that is collected from individuals within a group or organization. In most cases, the group or organization has some shared domain of responsibility or expertise. The management of this knowledge is generally focused around this central body of information. Software and business processes have been designed to facilitate the posting of information or

knowledge objects (in digital format) to and retrieval from the central body of information, or central knowledge repository. Both the posting and retrieval of information have benefited by the association of descriptive contextual information, "metadata", about the data stored in such a system. In addition, the 5 security of and appropriate access to the information have benefited from software and business practices designed to manage rules, roles, and access privileges. The use of Internet technologies has enhanced the share-ability of digitized knowledge by collapsing barriers of time and geography.

The premise that brought about these types of knowledge centralizing systems is 10 that some people are knowledge creators (or "knowledge leaders" or "knowledge owners" or "expertise providers") and have information that would be useful one or more times to other potential users ("knowledge seekers") of the information and who could be granted access to the information. I call this the "big bucket approach". Essentially, information is obtained either directly or indirectly from 15 the knowledge creators and stored in the central knowledge repository for the knowledge seekers to locate and utilize in the course of creating work products. Two primary objectives for these systems are to have the most relevant and most current information available at all times. A variety of incentive compensation systems have been incorporated along with this approach to encourage the 20 ongoing and continuous population and maintenance of the knowledge repository so that the big bucket is full of imminently locatable, useful information.

Systems utilizing the population and updating of the information en masse ("top down") from central sources such as fileservers, Web pages, etc. or individually

by capturing data at the point of origination or utilization ("bottom up"), such as within email systems or in local end-user computer files have been designed.

- The problem with systems employing the big bucket approach is that they do not effectively take into account the human bias not to share information
- 5 outside of the context of a trust-based relationship. The reality with such systems is that the central bucket is empty relative to the actual digital information that is managed directly by the knowledge creators. Extending the bucket metaphor, one can say that the reality is that the individual buckets populated and maintained by individual knowledge owners is where
- 10 the bulk of actual knowledge desired for a sharing system resides.

What is desired is a system and method that take into account, facilitate, and maximize the sharing of knowledge within the context of a trust-based relationship.

#### SUMMARY OF THE INVENTION

- 15 According to the present invention, a method for enhancing the sharing of knowledge within organizations is provided which overcomes the problems of prior art methods discussed above. The method of the invention encourages knowledge sharing by creating a system which allows knowledge creators to broker information with knowledge seekers and, in preferred embodiments,
- 20 includes features that will reward both knowledge owners and knowledge seekers for sharing information. This system effectively and for the first time

aligns organizational incentives for promoting the sharing and re-use of knowledge with the desire of individuals, based on human nature to manage their digitized personal knowledge closely and to share it within the context of a trust-based relationship.

- 5 This invention has numerous real-world applications across industries and organizational structures, and can essentially be used any time people can benefit from sharing knowledge. These include but are not limited to collaboration in the following industries and organizational structures:
- general business (e.g. email-based, owner-brokered document, contact, and file sharing);
  - 10 • manufacturing (e.g. collaborative design across any distance or spanning companies);
  - software development (e.g. source code sharing, testing, bug tracking, information security);
  - 15 • scientific research (e.g. research methods or results sharing);
  - academic learning (e.g. course material publishing, research results sharing, distance learning);
  - military (e.g. intelligence gathering, anti-espionage);
  - financial (e.g. research publishing, research data gathering);
  - 20 • medical (e.g. clinical trials, patient record / clinical case sharing); and

- community (e.g. contact sharing amongst groups, photo-sharing).

#### BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram illustrating a system for owner-brokered knowledge sharing 100 in accordance with the first preferred embodiment of the invention;  
5 and

FIG. 2 is schematic diagram illustrating the categorization of the knowledge flowing in the system 100.

#### DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 is a block diagram illustrating a system for owner-brokered knowledge sharing 100 in accordance with the first preferred embodiment of the invention. The system includes various components that are illustrated as follows:

- At least one Knowledge Seeker/Requester ("KR") 101 who initiates a search ("Request") for information at any time;
- 15 - At least one Knowledge Owner ("KO") 102 which is able to provide information in the form of knowledge objects that are of interest to any KR;
- At least one Knowledge Object 103 associated with each KO 102, which is a unit of analog, digital or digitized information or work product which is

created in the normal course of business activity and the production of work products by the KO 102;

- DKOR (Distributed Knowledge Object Repository) 104, a distributed, individual or personal knowledge object repository, which could be electronic files, emails, or other Knowledge Objects residing on systems managed by individual KOs;
- CKOR (Central Knowledge Object Repository) 105, which is a central body of digital information which could be a software application run on a server or stored in a database or managed through peer-to-peer technology to appear as a central body of information to users of the system. The CKOR functions as a central directory of Knowledge Objects; and
- A Knowledge Sharing Machine ("KSM") 106, which comprises a user interface and is used to manage both the CKOR 105 and the DKOR 104 and could be run on a server or through the virtual combination of connected machines using peer-to-peer technology to appear as a central body of information to users of the system. A unique characteristic of the KSM 106 is that it is as a system component maintains the continually updated and current directory or index of the contents of the CKOR 105 (and by association with the CKOR 105, the DKOR 104) but facilitates access to Knowledge Objects based on the type of information that is stored.

FIG. 2 is schematic diagram illustrating the categorization of the knowledge flowing in the system 100. The knowledge is classified "known" 201 and "published" 202. "Known" information 201 is defined as Knowledge Objects (documents, email, etc.) that are indexed at either the metadata or full-text level from within DKOR 104 and which are owned and updated in the normal course of business communication and the production of work products by the KO 102 but that have not been published, or approved for direct access through the KSM 106, by the KO 102. Access to Known information 201 is managed through a knowledge brokering process which requires the consent of the KO 102 before Knowledge Objects visible to the KSM 106 from within the DKOR 104 will be made available for evaluation of or delivery to the KR 101.

"Published" 202 is defined as information that has been authorized by the KO 102 for direct access through the KSM 106 after either passing through the knowledge brokerage process at all or through direct submission by the KO 102 to the CKOR 105. Published information can be subscribed to so that subsequent revisions and updates to the information can be automatically delivered to the KR 101 in the future.

A Correlation Index ("CI") is used in the system 100, which is a comparison means to indicate the degree of correlation between a request and a Knowledge Object as represented by the objects data or the data about the object (metadata). In the case of Published information 202, the correlation can be as high as 100% because the information is available to the KR 101 directly from the CKOR 105 without human broker interaction. In the case of Known

information 201, and because the CKOR 105 is a system and not a person, the KSM 106 can identify a very high CI between the Request and the Result, however, it will not show a 100% correlation. The KO 102, which is the human broker of Known information 201, must be the ultimate determinant of correlation.

- 5      The system 100 also includes a comparison measure which shall be referred to as a Relationship Index ("RI") which is a measure of the strength of a relationship as defined by aggregate interactions (phone, email, meetings) between one person and another. This can be applied to data that is sought, for example contact data for a sales prospect that resides in more than one DKOR 104 and
- 10     for which the KR 101 wants the most complete understanding of the prospects history with members of the organization. This can also be applied to the trust-based relationship that can develop between a KR 101 and a KO 102 by measuring searches and approved retrievals of information over time.

The system 101 also includes a Knowledge Sharing Reward Tracking Module

- 15     which is used to track the number of Requests for and subsequent delivery of Known or Published information from the KO 102 to the KR 101 through the knowledge brokering process or through the automated publishing process. This information will be utilizable within a compensation system to reward employees for sharing knowledge.

- 20     Also, in accordance with the first preferred embodiment of the invention, a method for owner-brokered knowledge sharing includes, but is not limited to, the following human or system supported steps:

- 1) A KR 101 initiates a search request ("Request") for information which could be to find a piece of information or even a person's contact information, including a history of interactions with a contact;
- 2) The KSM 106 receives the Request;
- 5       3) The KSM 106 compares Request against CKOR 105 information;
- 4) The KSM 106 returns the Result Set, which is one or more Results that are correlated with the Request, to the KR 101 in ranked form showing the highest level of correlation between the Request and the Result Set, including both Published and Known information (Knowledge Objects);
- 10      5) The KR 101 evaluates the Result Set and determines if any information returned by the KSM 106 should be accessed;
- 6) IF Published information is sought by the KR 101,  
THEN the KR 101 can access the information directly from the CKOR 105 through the KSM 106 so long as the person has appropriate access  
privileges (departmental, title/ role/ responsibility, etc.)  
15      ELSE IF known information is sought by the KR 101,  
THEN the KR 101 must access the information from the KO 102 through the knowledge brokering process.

The Knowledge Brokering Process comprises the following steps:

- 1) The KR 101 has the option of anonymously or identifiably (with the KR's identity revealed) requesting the information from the KO 102;
  - 2) The KR then instructs via the software user interface that the KSM send the Request along with the associated (by the KSM 106) individual Knowledge Object Result or Results from the Result Set to the KO 102. The request will state that the (anonymous or identified) KR 101 is looking for an Knowledge Object from the domain of Known information and that the KSM 106 has determined a Knowledge Object in the KO's DKOR 104 has a specified correlation or likelihood of being the information sought;
  - 3) The KO 102 receives and evaluates the request from the KSM 106.
  - 4) IF the KO 102, after evaluating the Request and the result set, is inclined to share the information with the KR 101,  
THEN the information is delivered by the KSM 106 to the KR 101 in over the computer network.
- 15 AND, the KSM 106 generates a message and delivers to the KO 102 to "ask" the KO 102 if this information is of a nature that should be Published and available to other people with appropriate access privileges through the Publishing process.
- ELSE IF the KO 102, after evaluating the Request and the result set, is  
20 not inclined to share the information with the KR,  
THEN the KO 102 declines the sharing request via the KSM 106,

AND a message is delivered back to the KR 101 by the KSM 106 indicating that the Request could not be completed. Since the KSM 106 is a machine and does not specify a 100% correlation, the end result and non-delivery of information could be interpreted the KR 101 to mean that  
5 the KO simply did not have the information that the KSM 106 "thought" it did;

10 5) In all cases where the Knowledge Sharing Reward Tracking Module is implemented or enabled, the KSM 106 will track the number of Requests for and subsequent delivery of Known or Published information from the KO 102 to the KR 101 through the knowledge brokering process or through the automated publishing process. This information will be utilized within a compensation system to reward employees for sharing knowledge.

Other notes on the Knowledge Brokering Process:

- 15 • The comparison matching for data about items, events, or ideas will use the best available techniques; for example, context-based matching, neural networks, keyword matching, etc;
- 20 • The comparison matching for people (contacts) will be based on the best available techniques or the unique invention described above as a Relationship Index;

- KO's may also want to remain anonymous, and the system could incorporate this process convention.

Although the invention is described herein with reference to the preferred  
5 embodiment, one skilled in the art will readily appreciate that other applications  
may be substituted for those set forth herein without departing from the spirit and  
scope of the present invention.

Claims will be submitted with the Patent Application based on this provisional  
application.

FIG. 1

Leon E. Jen  
10/25/2

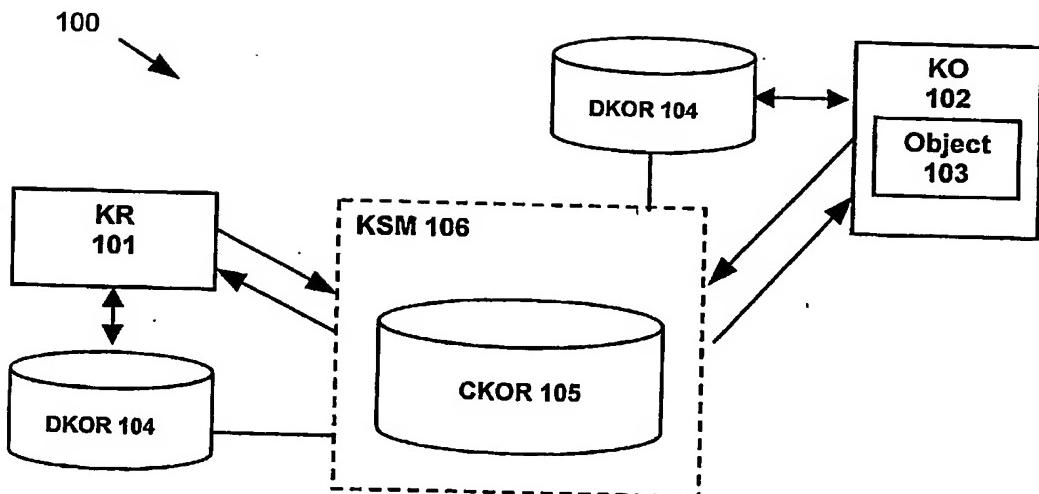


FIG. 2

